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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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PETER D. KARABINIS

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EXAMINER

HOM, SHICK C


ART UNIT

PAPER NUMBER

2666

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/261,209	Applicant(s)  KARABINIS ET AL.	
	Examiner Shick C Hom	Art Unit 2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-76 is/are pending in the application.
- 4a) Of the above claim(s) 1-58 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 59-64 and 68-73 is/are rejected.
- 7) ☒ Claim(s) 65-67 and 74-76 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 10/22/04 have been fully considered but they are not persuasive.

In page 7 lines 1-8, applicant argued that while the applicant's invention is a linear modulation receiver capable of receiving constant envelope modulated signals, Wilson et al. disclose a constant envelope receiver that is operative to receive linearly-modulated signals is not persuasive because neither the receiver of the applicant nor of Wilson et al. is merely a linear modulation receiver or a constant envelope receiver but an adapted receiver that is capable of receiving both linear modulation signals and constant envelope modulation signals as described in the claims. In page 7 lines 9-17, applicant argued that while the receiver of the applicant's invention receives the linearly modulated signals and constant envelope modulated signals over channels having the same channel bandwidth, Wilson et al. disclose a receiver that receives theses signals over channels having different channel bandwidths is not persuasive because col. 9 lines 57-66 of Wilson et al. which recite the receiver being able to accommodate alternative modulation types, notwithstanding differing channel widths

Art Unit: 2666

merely recite the additional feature of receiving theses signals over channels having different channel bandwidths, i.e. it accommodates differing channel widths, it does not exclude the channel bandwidths being the same.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 59 and 68 are rejected under 35 U.S.C. 102(b) as being anticipated by Wilson et al. (5,377,229).

Regarding claims 59 and 68:

Wilson et al. disclose the dual mode transceiver (see abstract which recite the transceiver compatible with both constant envelope FSK FM modulation and QPSK linear modulation) comprising: a linear modulation receiver adapted to receive linearly modulated signals from a first remote station over a first downlink channel having a given bandwidth, said linear modulation receiver being operative to receive constant envelope

Art Unit: 2666

modulated signals from a second remote station over a second downlink channel having the same given channel bandwidth, wherein the constant envelope signals are an approximation of said linearly modulated signals (see col. 9 lines 37-53 which recite the receiver demodulate and recover either constant envelope signals or non-constant envelope signals such as QPSK linear modulation and can accommodate these alternative modulation types notwithstanding differing channel widths clearly anticipate the receiver adapted to receive linearly modulated signals, constant envelope modulated signals, including using channel having the same or different channel bandwidth); and a transmitter that transmits constant envelope modulated signals over an uplink channel to said first and second remote stations (see col. 1 line 66 to col. 2 line 9 which recite the transmitter configured to transmit a constant envelope signal).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at

Art Unit: 2666

the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 60-61, 63-64, 69-70, and 72-73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson et al. (5,377,229) in view of Fang.

Regarding claims 60-61, 63-64, 69-70, and 72-73:

For claims 60-61, 63-64, 69-70, and 72-73, Wilson et al. disclose the dual mode transceiver and method described in paragraph 3 of this office action.

For claims 60-61, 63-64, 69-70, and 72-73, Wilson et al. disclose all the subject matter of the claimed invention with

Art Unit: 2666

the exception of wherein said first remote station is a satellite relay station as in claims 60, 69; wherein said second remote station is a terrestrial base station as in claims 61, 70; wherein said linearly modulated signals are Offset Quadrature Phase Shift Keying (OQPSK) signals as in claims 63, 72; and wherein the first and second downlink channels are TDMA channels and wherein said constant envelope modulated signals and said linearly modulated signals are TDMA signals as in claims 64, 73.

Fang from the same or similar fields of endeavor teach that it is known to provide wherein said first remote station is a satellite relay station; wherein said second remote station is a terrestrial base station; wherein said linearly modulated signals are Offset Quadrature Phase Shift Keying (OQPSK) signals; and wherein the first and second downlink channels are TDMA channels and wherein said constant envelope modulated signals and said linearly modulated signals are TDMA signals (see page 567 which recite using TDMA transmission over satellite channels with uplink and downlink having non-linear elements and page 568 column 1 lines 9-28 which recite the satellite using offset QPSK modulation which corresponds to the linearly modulated OQPSK downlink signal from the satellite). Thus, it would have been obvious to the person having ordinary

Art Unit: 2666

skill in the art at the time the invention was made to provide wherein said first remote station is a satellite relay station; wherein said second remote station is a terrestrial base station; wherein said linearly modulated signals are Offset Quadrature Phase Shift Keying (OQPSK) signals; and wherein the first and second downlink channels are TDMA channels and wherein said constant envelope modulated signals and said linearly modulated signals are TDMA signals as taught by Fang in the dual mode transceiver and method of Wilson et al. The first remote station being a satellite relay station; wherein said second remote station is a terrestrial base station; wherein said linearly modulated signals are Offset Quadrature Phase Shift Keying (OQPSK) signals; and wherein the first and second downlink channels are TDMA channels and wherein said constant envelope modulated signals and said linearly modulated signals are TDMA signals can be implemented by using a satellite relay station; wherein said second remote station is a terrestrial base station; and using Offset Quadrature Phase Shift Keying (OQPSK) signals; TDMA channels and wherein said constant envelope modulated signals and said linearly modulated signals are TDMA signals as the modulation technique for transmission in Wilson et al. The motivation for using a satellite relay station; wherein said second remote station is a terrestrial

Art Unit: 2666

base station; and using Offset Quadrature Phase Shift Keying (OQPSK) signals; TDMA channels and wherein said constant envelope modulated signals and said linearly modulated signals are TDMA signals as taught by Fang the dual mode transceiver and method of Wilson et al. being that the satellite relay station provides the added feature of a more global communication; the use of linearly modulated OQPSK signal provides better spectral efficiency; and the use of TDMA signal for the uplink and downlink increase the efficiency of the communication system by allowing a greater number of simultaneous transmissions in the dual mode transceiver and method of Wilson et al.

7. Claims 62 and 71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson et al. (5,377,229) in view of Mundra et al.

Regarding claims 62 and 71:

For claims 62 and 71, Wilson et al. disclose the dual mode transceiver and method described in paragraph 3 of this office action.

For claims 62 and 71, Wilson et al. disclose all the subject matter of the claimed invention with the exception of

Art Unit: 2666

wherein said constant envelope modulated signals are Gaussian Minimum Shift Keyed (GMSK) modulated signals as recited in claims 62 and 71.

Mundra et al. from the same or similar fields of endeavor teach that it is known to provide constant envelope modulated signals being Gaussian Minimum Shift Keyed (GMSK) modulated signals (see page 1, col. 2, lines 37-44). Thus, it would have been obvious to the person having ordinary skill in the art at the time the invention was made to provide constant envelope modulated signals being Gaussian Minimum Shift Keyed (GMSK) modulated signals as taught by Mundra et al. in the dual mode transceiver and method of Wilson et al. The constant envelope modulated signals being Gaussian Minimum Shift Keyed (GMSK) modulated signals can be implemented by using GMSK modulation as the particular type of constant envelope modulation in Wilson et al. The motivation for using GMSK modulation as the particular type of constant envelope modulation as taught by Mundra et al. in the dual mode transceiver and method of Wilson et al. being that it reduces the cost of uplink signal amplification, as recited in Mundra et al., and therefore lower the cost to produce the receiver in Wilson et al.

Art Unit: 2666

Allowable Subject Matter

8. Claims 65-67 and 74-76 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

10. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Art Unit: 2666

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shick C Hom whose telephone number is 571-272-3173. The examiner can normally be reached on Monday to Friday with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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